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CHOLESTEROL AND CSF 5-HIAA IN ATTEMPTED SUICIDE

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Introduction: Low serum cholesterol has been linked to suicide and violent behaviour. The same kind of associations has been reported regarding low levels of 5-hydroxyindolacetic acid (5-HIAA) in the cerebrospinal fluid (CSF) and suicidal behaviour. The hypothesis of the link between serum cholesterol and suicide incorporate serotonin. It proposes that low cholesterol is related to reduced serotonergic neurotransmission, which in turn, is linked to violent and suicidal behaviour. A correlation between CSF 5-HIAA and serum cholesterol has been shown in animal-studies, but has not been found in humans.

Aims: To study the interrelationship between serum cholesterol and CSF 5-HIAA in suicide attempters. Since both cholesterol and CSF 5-HIAA are associated with suicide and violent suicide-attempts, we also investigated the correlation with suicide, violent suicide attempt method, suicide intent, hopelessness and depression severity.

Methods: Serum total cholesterol and CSF 5-HIAA was measured in 42 medication free suicide attempters. Patients were assessed with Becks`s Hopelessness scale (BHS), Suicide Intent Scale (SIS) and Montgomery-Åsberg depression rating scale (MADRS) and followed-up for causes of death.

Results: Serum total cholesterol and CSF 5-HIAA showed a significant positive correlation adjusted for age, body mass index and substance abuse diagnosis. Cholesterol and CSF 5-HIAA levels did not differ between violent and non-violent suicide attempters or between suicide completers and survivors.

Conclusions: These findings indicate that the serotonergic system may be connected to serum cholesterol in patients with a recent suicide attempt.

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